

distinction without a difference. If we understand Mr. Thwaites's ideas correctly, he regards, in the case of simple conjugation for instance, one cell as the homologue of the pollen-grain, the other of the germinal vesicle of a flowering plant. The modifications of the envelopes of these essential elements are of no consequence as to the general theory. At the same time we agree with Dr. Lindley that the balance of evidence lies against the doctrine of sexuality in the flowerless plants. The unconfirmed statements of Schleiden on the fertilization in the Marsileaceæ are not alluded to; the analogy of the larger spores to ovules has certainly been satisfactorily shown, by the subsequent observations of Mettenius and Nägeli.

We were rather surprised to find (at p. 136. vol. ii.) a repetition of the old statement, that the old bark and the wood, of Dicotyledons, are separated in spring by the exudation of a slimy substance called cambium; we should have thought this an oversight had it not also occurred in the first volume; any one may convince himself that there is no solution of continuity by submitting a section to the microscope, but this section requires care and a very sharp knife.

There are other minute points which might be noticed; but looking at the work as a whole, and the fullness and especial clearness with which the multifarious questions are expounded, this would be an invidious task; and we feel that the work must be received as a most welcome contribution, not only by advanced students, but particularly by all now on the threshold of the science, who have indeed great facilities compared with those who date their first acquaintance with botany from but a few years back.

Narrative of an Expedition into Central Australia during the years 1844-5 & 6, &c., by Captain CHARLES STURT, F.L.S.: *with a Botanical Appendix* by ROBERT BROWN, D.C.L., F.R.S., F.L.S., and *Ornithological Notices* by JOHN GOULD, F.R.S.

This is not the place to give an account of the geographical results of this last expedition of "the father of geographical research;" if it were, we should be tempted to linger among its pages.

In this book the usually dreary and almost hopelessly depressing inland tracts of Australia are described by one, who has made them his home for many a weary month, in a way which reminds us of the narratives of the Arctic discoverers, Parry, Franklin, Richardson, Back and Buchan, or the antarctic voyage described by Ross and Hooker and M'Cormick. In their pages, such incidents as a white fox or little *Mus leucopus* visiting the icebound ships, a little marmot coming into a tent and snuggling, from the winter's blast, beside the fire, regardless of the sleeping terrier—the purple saxifrage (*S. oppositifolia*) creeping as it were out of the snow, the *Ledum palustre*, Cranberry, exquisite *Dryas octopetala*, *Oxyria*, and not a few *Ranunculi*—"icy" and "hairy," springing as if by magic out of the ground immediately when the snow has melted on some little favoured spot—*tell* in a way that can only be understood and enjoyed by the naturalist or the poet.

In like manner those precursors of civilization (to go no further back), Flinders, Oxley, Grey, Mitchell, Leichardt and Sturt, find in the desert not a few favoured spots; Australia has its *Eremocharis* (what a happy name!), its flights of parrakeets, its little gorgeous Maluri, its bronze-winged and crested pigeons, their wings "sprinkled with liquid gold," its rock kangaroos, its pretty *Tarsipes Spenserae*, its even more curious *Myrmecobius*, and insects as bright as its *Buprestidæ*, or as dull and curious as its species of *Helæus*. In the book before us, Capt. Sturt's narrative is made interesting by the numerous descriptions of the habits of the animals he and his party met with; while in the appendix, contributed by Mr. Gould and Dr. Robert Brown, are curious, and, owing to the novelty of the plants, valuable additions to our knowledge of Australian natural history.

It is seldom now that we or any one else have to refer to recent works of Dr. Brown—the most distinguished botanist of this or any other country,—and it is pleasing to see him again in the field where so many of his early discovered flowers are blooming. The author of the 'Prodromus Floræ Novæ Hollandiæ' has added a botanical appendix to his friend Capt. Sturt's book—an appendix which of itself will make the book valuable to the scientific man.

Capt. Sturt's collection consisted of about 100 species, with many other plants, chiefly trees, not easily determinable, and alluded to in his interesting narrative. The Captain and his companion Mr. Browne (the name was a good one for Australian botany), "seem," as Dr. Robert Brown informs us in his appendix, "to have collected chiefly those plants that appeared to them new or striking," and of such the collection contains a considerable proportion.

The new genera and species recorded are—

BLENNODIA, a genus of *Cruciferae* allied to *Matthiola*, but differing in having incumbent cotyledons, and in the mucous covering of the seeds; the species is *Blennodia canescens*.

STURTIA, a genus of *Malvaceæ* nearly related to *Gossypium* and *Senra*; the species *Sturtia Gossypioides* was found by the enterprising man with whose name it is associated, in the beds of the creeks on the Barrier Range.

Tribulus hystrix and *T. occidentalis* from the W. coast of Australia, the latter found during the voyage of the Beagle.

TRIBULOPIS, a new genus allied to *Tribulus*, and containing three species here shortly characterized: *T. Solandri*, found by Banks and Solander in 1770 near Endeavour River; *T. angustifolia* on the shore at the top of the Gulf of Carpentaria, where it was discovered by Mr. Brown on Flinders's expedition in 1802 and 1803; and *T. pentandra*.

Crotalaria Sturtii and *C. Cunninghami*.

Clanthus Dampieri; the synonyma are given and remarks, some from Cunningham's MS. Journal.

CLIDANTHERA, n. g.; perhaps near *Psoralea*, but differing in the unusual dehiscence of the anthers. The species is named *Clidanthera Psoralioides*.

Swainsona grandiflora, *S. Greyana*, *S. ? laxa*.

PENTADYMIS, n. g. of Labiate plants; *P. incana*.

Cassia Sturtii, *C. canaliculata*, *C. eremophila*, Cunningh. MSS., *C. platypoda*, *C. phyllodinea*.

PETALOSTYLIS, a new genus of *Cæsalpineæ* very near *Labiichea*; the species is named *Petalostylis Labicheoides*.

PODOCOMA, a genus distinguished from *Erigeron* particularly by its stipitate pappus. The only species yet known is *Podocoma cuneifolia*.

LEICHARDTIA, a genus named after Dr. Leichardt, among the most enterprising of Australian explorers, whose narrative has been for two years before the public; the compliment of Mr. Brown will prove in the eyes of all botanists one even more graceful than the deserved one of the medal of the Royal Geographical Society of London awarded to him in 1846.

The species *Leichardtia australis* was originally found by Sir T. Mitchell, but with fruit only, in one of his journeys, and also in his last expedition, where it is mentioned (*Trop. Austr.* p. 85) as *Doubah*; the natives, we are informed by Sir Thomas, eat the seed-vessel entire, preferring it roasted. Captain Sturt observes, that the natives of the districts where he found it eat only the pulpy seed-vessel, rejecting the seeds.

Jasminum lineare, Brown, *Prodr.* i. 521, is a very generally distributed Australian species. Dr. Lindley has, according to our author, made of a very slight variety of it, his species *Jasminum Mitchellii* (Lindley in Mitchell's *Trop. Austr.* p. 365).

Jasminum micranthum, n. s.

Goodenia cycloptera, n. s.

Scævola depauperata, n. s. "In salt-ground in lat. 26° S."

Eremophila Cunninghamii; *Eremodendron C.*, DeCandolle, *Prod.* xi. 713; *Deless. Ic. Sel.* v. 43. t. 100, where there is an error in the number of the ovules. Our author gives an analysis of the five species, describing a new one.

Eremophila Sturtii. We may remark, that a genus of Desert-loving Egyptian and Arabian *Mantidæ* is named *Eremiaphila*. The slight difference of spelling and sound, as well as the total distinction of the subjects, ought to prevent any change of name. Insects and plants are sufficiently well-marked without the mere alteration of a sound.

Stenochilus longifolius, Br. *Prod.* i. 517, is identical with the recently described *S. pubiflorus* and *salicinus*. The same remark that applied to the name of the last genus applies to this. Amongst the Coleoptera there is a well-marked genus *Stenocheila*, described by Prof. Lacordaire; there is no danger of an entomologist without this beautiful carabidous form, finding some day an Australian plant sent him by a correspondent in place of an insect desideratum to his cabinet.

Grevillea (Eugrevillea) Sturtii, n. s.

Grevillea Mitchellii, Hooker, Mitchell's *Trop. Austr.* p. 265, proves to be *G. chrysodendron*, Br. *Prod. Fl. N. Holl.* 379, the name being

given, "not from the colour of the under surface of the leaves, which is nearly white, but from the numerous orange-coloured racemes rendering this tree conspicuous at a great distance."

Grevillea (Plagiopoda) neglecta, n. s.

Grevillea (Cycloptera) lineata, n. s. near *G. striata*.

Ptilotus latifolius, n. s. A similar remark might be made on this generic name to those two already given.

Neurachne paradoxa, n. s.

We have dwelt on this paper at greater length than usual, for in it are far more than "veteris vestigia flammæ." We extract an interesting passage supplemental to some observations of Dr. Brown's published in 1814 in the Botanical Appendix to Captain Flinders's Voyage.

"From the knowledge I then had of New Holland, or Australian vegetation, I stated that its chief peculiarities existed in the greatest degree in a parallel included between 33° and 35° S. lat., which I therefore called the principal parallel, but that these peculiarities or characteristic tribes were found chiefly at its western and eastern extremities, being remarkably diminished in that intermediate portion included between 133° and 138° E. long. These observations related entirely to the shores of Australia, its interior being at that period altogether unknown; and the species of Australian plants with which I was then acquainted did not exceed 4200. Since that time great additions have been made to the number, chiefly by Mr. Allan Cunningham, in his various journeys from Port Jackson, and on the shores of the north and north-west coasts during the voyages of Captain King, whom he accompanied; by Messrs. William Baxter, James Drummond, and M. Preiss, at the western extremity of the principal parallel; and by Mr. Ronald Gunn, in Van Diemen's Land. It is probable that I may be considered as underrating these additions, when I venture to state them as only between two and three thousand, and that the whole number of Australian plants at present known does not exceed, but rather falls short of, 7000 species.

"These additions, whatever their amount may be, confirm my original statement respecting the distribution of the characteristic tribes of the New Holland flora; some additional breadth might perhaps be given to the principal parallel, and the extent of the peculiar families may now be stated as much greater at or near its western than at its eastern extremity.

"With the vegetation of the extra-tropical interior of Australia, we are now in some degree acquainted, chiefly from the collections formed by the late Mr. Allan Cunningham, and Charles Fraser, in Oxley's two expeditions from Port Jackson into the western interior, in 1817 and 1818; from Captain Sturt's early expeditions, in which the rivers Darling, Murrumbidgee, and Murray, were discovered; from those of Sir Thomas Mitchell, who never failed to form extensive collections of plants of the regions he visited; and lastly, from Captain Sturt's present collection.

"The whole number of plants collected in these various expeditions may be estimated at about 700 or 750 species; and the gene-

ral character of the vegetation, especially of the extensive sterile regions, very nearly resembles that of the heads of the two great inlets of the south coast, particularly that of Spencer's Gulf, the same or a still greater diminution of the characteristic tribes of the general Australian flora being observable. Of these characteristic tribes, hardly any considerable proportion is found, except of *Eucalyptus*, and even that genus seems to be much reduced in the number of species; of the leafless *Acaciæ*, which appear to exist in nearly their usual proportion; and of *Callitris* and *Casuarina*. The extensive families of *Epacrideæ*, *Stylideæ*, *Restiaceæ*, and the tribe of Decandrous *Papilionaceæ*, hardly exist, and the still more characteristic and extensive family of *Proteaceæ* is reduced to a few species of *Grevillea*, *Hakea*, and *Persoonia*.

“Nor are there any extensive families peculiar to these regions; the only characteristic tribes being that small section of aphyllous, or nearly aphyllous *Cassiæ*, which I have particularly adverted to in my account of some of the species belonging to Captain Sturt's collection, and several genera of *Myoporinæ*, particularly *Eremophila* and *Stenochilus*. Both these tribes appear to be confined to the interior, or to the two great gulfs of the south coast, which may be termed the outlets or direct continuation of the southern interior; several of the species observed at the head of Spencer's Gulf also existing in nearly the same meridian, several degrees to the northward. It is not a little remarkable that nearly the same general character of vegetation appears to exist in the sterile islands of Dampier's Archipelago, on the north-west coast, where even some of the species which probably exist through the whole of the southern interior are found; of these the most striking instances are, *Clianthus Dampieri* and *Jasminum lineare*, and to establish this extensive range of these two species was my object in entering so minutely into their history in the preceding account.

“A still greater reduction of the peculiarities of New Holland vegetation takes place in the islands of the south coast.”

Of zoological productions, as far as birds are concerned, Mr. Gould informed Captain Sturt that the *Cinclosoma cinnamomeus*, Gould, beautifully figured by Messrs. Gould and Richter in vol. ii., was the only new one found during his expedition; but the Captain evidently, though a close observer and accurate recorder of the habits of animals, had no facilities, in the usually desert tracts he passed over, to preserve skins and specimens, except of plants, easily brought within a few sheets of paper: where shrubs are found there will be birds, and where plants and animals can live many insects will find a home; we should like to see some of the insect inhabitants of the regions Captain Sturt passed through.

The figures of the *Milvus affinis*, and the truly exquisite plate of *Pigeons*, and also that of the *Mus conditor*, convince us that if Mr. Gould, like Mr. Audubon, were to publish, in parts, a reduced size (say largish octavo) of such works as his truly national *Birds of Europe* and *Birds of Australia*, such a series of volumes would find an entrance where his larger works could never be seen: the co-

loured figures in the book before us prove that reduced representations when carefully done and *coloured* (as these figures are) are more useful to the scientific man than large folio volumes, however gorgeous and magnificent.

In Germany, his fine work on the *Ramphastidæ* has been copied on a reduced scale; it is a pity that so spirited and talented a man should not have all the results of the profit of such books.—A. W.

Arran and Excursions to Arran, with reference to the Natural History of the Island. By the Rev. DAVID LANDSBOROUGH. 1847. Johnstone.

This excellent work should have been printed without its prefatory matter, and it would have been noticed by us earlier, but for the difficulty we felt about referring to a poem in a scientific Journal. The poem of Arran however only occupies 80 pages of a book of 367 pages, so that the gifted and amiable author of it should have published the poem separate, and the excursions separate, or at least given the prominence and *preface* to the larger and (to us) more valuable portion of his book. In a future number we intend to give some extracts from these very interesting excursions, which will show such as are not acquainted with them, that they have another "Journal of a Naturalist," and a decidedly originally-treated natural history of Arran, which would have delighted Gilbert White of Selborne. With the works of the Rev. D. Landsborough and the geological and picturesque descriptions of Professor Ramsay, Arran, the Queen of Scotland's Islands, behind "whose northern battlement of hills" we have witnessed more than one glorious sunset, the visitor will find most excellent guides. We have tested them both; they should be printed in one volume.—A. W.

PROCEEDINGS OF LEARNED SOCIETIES.

BOTANICAL SOCIETY OF EDINBURGH.

Nov. 9, 1848.—The Rev. Dr. Fleming, President, in the Chair.

The President opened the meeting by making a few observations on the flourishing state of the Society. He alluded to the interesting communications which had been read during the past session, many of which had been published in the Society's Transactions; and concluded by expressing a hope that the ensuing session might be equally prosperous.

Numerous donations to the Museum and Library were announced, and thanks ordered to be returned for them.

The following communications were read:—

1. "Algæ Orientales, or Descriptions of new species belonging to the genus *Sargassum*" (part 3), by R. K. Greville, LL.D. (Ann. Nat. Hist. vol. ii. S. 2. p. 431.)
2. "Stirpes Cryptogamæ Sarnienses, or Contributions towards the